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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/600,203	08/09/2000	Satoshi Ogata	13409.1USWO	7904

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EXAMINER

SAVAGE, MATTHEW O

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 06/25/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/600,203

Applicant(s)

OGATA ET AL.

Examiner

Matthew O Savage

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 13-16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

Newly submitted claim 16 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: newly submitted claim is directed to a species not originally claimed.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claim 16 has been withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-6, and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 4-45811 in view of Pike et al.

With respect to claim 1, JP '811 discloses a strip, non-woven fabric 3 wound around a perforated cylinder 4 in twill form (see FIGS. 1 and 2). As best understood, JP '811 fails to specify long thermoplastic fibers prepared using a spun bonding method with fiber intersections that are thermally adhered. Pike et al disclose spun bonded non woven fabric prepared using a spun bonding method (see example 1 in columns 10-11) with fiber intersections that are thermally adhered by a hot blast (see example 1) and suggests that such an arrangement has high filtration efficiency and physical strength

(see the first full paragraph of col. 3). It would have been obvious to have modified the JP '811 filter so as to have included long thermoplastic fibers with fiber intersections that were adhered as suggested by Pike et al in order to provide a filter media having high filtration efficiency and physical strength properties.

Regarding claim 2, Pike et al disclose a thermoplastic adhesive composite fibers including a low melting point resin and a high melting point resin with a difference in melting point be 10 degrees C or more (see example 1).

Concerning claim 3, Pike et al disclose the low melting point resin as being linear low density polyethylene and the high melting point resin as being polypropylene (see example 1).

As to claim 4, Pike et al disclose that it is known in the art to bond an analogous fabric by thermal compression via a calendaring process (see from line 63 of col. 1 to line 22 of col. 2). Accordingly, it would have been obvious to have modified the filter fabric suggested by JP '811 and Pike et al so as to have been bonded by a calendaring process as known in the art in the case that equipment for carrying out the calendaring process was on hand and in the case that a lower filtration efficiency filter media was acceptable.

Regarding claim 5, Pike et al disclose the fiber intersections of the fabric as being bonded by a hot blast (e.g., via a the through air bonder described in example 1).

Concerning claim 6, JP '811 discloses the strip as being twisted (see the abstract).

Regarding claim 10, JP '811 and Pike et al fail to specify the recited void rate, however, such a modification would have been obvious in order to optimize the filter for a particular application.

Concerning claim 11, JP '811 and Pike et al fail to specify the slit width and product of the slit width and basis weight, however, such a modification would have been obvious in order to optimize the filter for a particular application.

As to claim 12, JP '811 and Pike et al fail to specify the recited ratio, however, such a modification in filter structure, i.e., selecting the fiber diameter and filter density to achieve such a ratio would have been obvious to one skilled in the art in order to optimize the filter for a particular application.

Claims 7-9 are rejected under 35 U.S. C. 103(a) as being unpatentable over JP 4-45811 in view of Pike et al as applied to claim 1 above, and further in view of JP 1-115423.

With respect to claim 7, JP '811 and Pike et al fail to specify pleated matter having 4-50 pleats. J P '423 discloses the concept of pleating an analogous non woven strip 3 so as to have 4-50 pleats (see FIG.6) and suggests that such an arrangement increases the strength and dimensional stability of the filter media (see the abstract). It would have been obvious to have modified the combination suggested by JP '811 and Pike et al so as to have included pleated matter as suggested by JP '423 in order to increase the strength and dimensional stability of the filter.

Regarding claim 8, JP '423 discloses pleats that are non-parallel because the pleats extend along non-linear paths.

Concerning claim 9, JP '811 and Pike et al fail to specify the recited void rate, however, such a modification would have been obvious in order to optimize the filter for a particular application.


The rejection concerning the term "continuous non woven fabric" under 35 U.S.C. 112, first and second paragraphs has been withdrawn in view of applicant's amendments filed on 3-5-03 to claims 1, 2, 4-7, and 11 deleting said term.

The rejection of claim 12 under 35 U.S.C. 112, second paragraph has been withdrawn in view of applicant's comments on page 3 of the response filed on 3-5-03.

Applicant's arguments filed 3-5-03 have been fully considered but they are not persuasive.

Applicant argues that the combination of Pike et al and JP '811 would not yield unexpected results as in the case of the instant invention, however, it is held that such an argument does not apply in the instant case since the combination covers the instant invention to the extent recited in the instant claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew O Savage whose telephone number is 703-308-3854. The examiner can normally be reached on Monday-Friday, 7:00am-3:30pm.

  
Matthew O Savage  
Primary Examiner  
Art Unit 1723

mos  
June 24, 2003